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| **Fill in the Blanks** | **Equation of a Tangent to a Circle** |

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| **Equation of Circle** | **Point on Circle** | **Gradient of Radius** | **Gradient of Tangent** | **Equation of Tangent** |
| $$x^{2}+y^{2}=45$$ | $$(3, 6)$$ | $$2$$ | $$-\frac{1}{2}$$ |  |
| $$x^{2}+y^{2}=10$$ | $$(3, -1)$$ | $$m=-\frac{1}{3}$$ |  |  |
| $$x^{2}+y^{2}=68$$ | $$(-2, -8)$$ |  |  |  |
| $$x^{2}+y^{2}=25$$ | $$(-4, 3)$$ |  |  |  |
| $$x^{2}+y^{2}=73$$ | $$(8, 3)$$ |  |  |  |
| $$x^{2}+y^{2}=\frac{53}{2}$$ | $$\left(\frac{5}{2}, -\frac{9}{2}\right)$$ |  |  |  |
| $$x^{2}+y^{2}=6$$ | $$\left(-2, \sqrt{2}\right)$$ |  |  |  |
| $$x^{2}+y^{2}=100$$ |  |  |  | $$y=\frac{3}{4}x-\frac{25}{2}$$ |